

IN THE CLAIMS

This listing of claims will replace all prior versions, and  
listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of position determination in a  
radio system, the method comprising the acts of:

    multiplying a signal received by a multiplier with a carrier  
    signal from a carrier generator to form a mixed down signal;  
    correlating the mixed down signal with a replica signal from a  
    code generator to form a correlated signal;

    processing the correlated signal with an optimization function  
    comprising an exponential term in combination with a second term to  
    form an output signal that provides a position measurement in  
    indoor environments with multiple diffuse reflections; and

    feeding back the output signal to control the carrier  
    generator and the code generator for improving accuracy of the  
    position measurement;